REMARKS

Generally

Claims 43-57 and 59-64 are pending in the application. In this Response, claims 43 and 50-55 have been amended, claim 58 has been cancelled, and claims 59-64 have been added. Initially, Applicants respectfully submit that claim 43 has been amended for clarity. In particular, Applicants respectfully submit that claim 43 has been amended to clarify that the biocide used is an alkyl substituted phosphonium compound of formula (I) or an alkyl-substituted phosphine of formula (II) *or* a condensate of formula (III). Applicants respectfully submit that it would have been clear to one of ordinary skill in the art that claim 43 should have referred to a phosphine of formula (II) or a condensate of formula (III) rather than referring to a phosphine of formula (II) and a condensate of formula (III). Applicants further respectfully submit that it would be normal in this field to refer to the compounds in formulas (II) and (III) in the alternative rather than in combination and from the context of the invention as a whole it would have been clear to one of ordinary skill in the art that this was again the case. Indeed, Applicants respectfully submit that the fact that this was standard in the art to refer to such phosphines and condensates in the alternative, rather than referring to the use in combination, can be seen from one of the prior art documents cited in the International Search Report, which has been cited on the Information Disclosure Statement submitted herewith. In this regard, the Examiner's attention is directed to U.S. Patent No. 4,673,509, which refers to using phosphine type compounds and condensate type compounds in the alternative. (See, for example, Cols. 1 and 2 of the '509 patent). Accordingly, Applicants respectfully submit that it would have been apparent to one of ordinary skill in the art that the term "and" between formulas (II) and (III) was in fact a typographical error and should have been "or".

Applicants respectfully request the Examiner to reconsider and withdraw the outstanding rejections in view of at least the foregoing amendments and the following remarks.

Rejection under 35 U.S.C. § 112

Claims 43-58 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly indefinite for failing to particularly point out and distinctly claim the subject matter

which Applicants regard as the invention. Applicants respectfully submit that claims 43 and 50-55 have been amended for clarity as suggested by the Examiner at page 2 of the Office Action. Thus, the rejection under 35 U.S.C. § 112, second paragraph, should be withdrawn.

However, with regard to a value of "y" in claim 43 and the present specification, Applicants respectfully submit that both claim 43 and the present specification describe that y has a valency such that the compound is water-soluble. (See, for example, page 4 of the present specification). Accordingly, y already has an assigned value both in the claims and the present specification. Thus, the rejection of claim 43 and the objection to the present specification should be withdrawn.

Rejection under 35 U.S.C. § 102

Claims 43-52 and 54-57 have been rejected under 35 U.S.C. § 102(b) as allegedly anticipated by U.S. Patent No. 5,670,055 (hereinafter "Yu"). Without conceding the propriety of the rejection, independent claim 43 has been amended to incorporate the features of cancelled claim 58. As claim 58 has not been rejected as being anticipated by Yu, the rejection of amended independent claim 43 is moot. As claims 44-52 and 54-57 directly or indirectly depend from claim amended independent claim 43, the rejection of claims 44-52 and 54-57 is moot for at least the same reasons. Accordingly, the rejection of claims 43-52 and 54-57 should be withdrawn.

Rejections under 35 U.S.C. § 103

(i) Claim 53 has been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Yu in view of U.S. Patent No. 6,784,168 (hereinafter "Jones"). Without conceding the propriety of the rejection, independent claim 43 has been amended to incorporate the features of cancelled claim 58. It should be noted that claim 58 has not been rejected as being obvious over Yu and Jones. Thus, the rejection of claim 53, which indirectly depends from newly amended independent claim 43, is now moot. Accordingly, the rejection of claim 53 should be withdrawn.

(ii) Claim 58 has been rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Yu in view of U.S. Patent No. 4,966,716 (hereinafter "Favstritsky"). The rejection is respectfully traversed.

Initially, it should be noted that the Office has the initial burden of establishing a factual basis to support the legal conclusion of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). For rejections under 35 U.S.C. § 103(a) based upon a combination of prior art elements, in *KSR Int'l v. Teleflex Inc.*, 127 S.Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007), the Supreme Court stated that "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art." "Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

Yu discusses a method for dispersing biofilms caused by the bacteria or other microorganisms on surfaces of an industrial process water system which comprises treating the water with a specific linear alkylbenzene sulfonate possibly combined with tetrakis (hydroxymethyl) phosphonium sulphate. (Col. 2, lines 20-35).

The Examiner concedes that Yu is deficient in that Yu does not teach the aqueous system as being a wastewater treatment plant used for the treatment of industrial or municipal effluent. (Office Action, Page 3).

Thus, the Examiner cites Favstritsky, which discusses a method for treating biofouling problems inherent in recirculating water systems, by adding a biocidally effective amount of a peculiar water soluble organic ammonium perhalide. (Col. 4, lines 50-63).

Applicants respectfully submit that the possibility of applying Favstritsky's process to other recirculating water systems, such as wastewater, is not disclosed or suggested by Favstritsky in Col. 8 line 36 by one single word: "wastewater" without providing any other details. Further, Applicants respectfully submit that Favstritsky appears to be silent regarding the use of a combination of water soluble organic ammonium perhalide with (i) one of the phosphonium compounds recited in claim 43 or (ii) tetrakis (hydroxymethyl) phosphonium sulphate taught by Yu. Consequently, Applicants respectfully submit that one of ordinary skill in the art would not be motivated to combine Yu and Favstritsky. Even if it is assumed *arguendo* that Yu and Favstritsky are combined, Applicants respectfully submit that the combination of Yu and Favstritsky does not yield all the features recited in claim 43. In particular,

Applicants further respectfully submit that neither Yu nor Favstritsky disclose or suggest the use of a water-soluble biocide as an uncoupling agent to control bacterial biomass in an aqueous system, where the biocide is suitable for use in aqueous systems due to not having high environmental toxicity.

In view of at least the foregoing, Applicants request withdrawal of the obviousness rejection.

Double Patenting

Claims 43-58 have been provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 35-62 of co-pending Application No. 11/793,303 ("the '303 application"), claims 37-63 of co-pending Application No. 11/630,604 ("the '604 application"), and claims 33-51 of co-pending Application No. 10/559,969 ("the '969 application").

Merely to expedite prosecution and without conceding the propriety of the rejections, terminal disclaimers over the '303, '604, and '969 applications is being submitted herewith. It should be noted that the filing of Terminal Disclaimers is not to be construed as an admission of the propriety of the rejection on obvious double patenting. *Quad Environmental Technologies Corp. v. Union Sanitary District*, 946 F.2d 870, 20 USPQ2d 1392 (Fed. Cir. 1991).

In view of the foregoing, Applicants request withdrawal of the provisional obviousness-type double patenting rejections.

Conclusion

Applicants invite the Examiner to contact Applicants' representative at the telephone number listed below if any issues remain in this matter, or if a discussion regarding any portion of the application is desired by the Examiner.

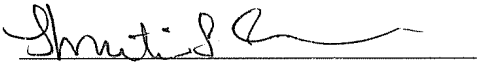
In the event that this paper is not timely filed within the currently set shortened statutory period, Applicants respectfully petition for an appropriate extension of time. The fees for such extension of time may be charged to our Deposit Account No. 02-4800.

In the event that any additional fees are due with this paper, please charge our Deposit Account No. 02-4800.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: December 3, 2008

By: 
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